

Restoring the Esthetics with Free Gingival Autograft: A Case Report

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Abstract

Gingival recession is defined as displacement of soft tissue margin apical to the cemento-enamel junction. The esthetic demand, reduction of root sensitivity, management of root caries or cervical abrasion are the main indications for root coverage. The root coverage procedure is quite predictable and also produces patient satisfaction. This paper reports a case of 32yr old female who was treated for root coverage procedure.

Keywords: *Gingival Recession, Mucogingival surgery, Free Autogingival Graft, Esthetics.*

Introduction

Significant factor associated with the success of dental therapy is physiologic well being of the patient. Gingival recession according to the Glossary of Periodontal terms is defined as displacement of the soft tissue margin apical to the cemento-enamel junction[1]. Major causes for gingival recession include plaque induced periodontal disease, mechanical force such as faulty tooth brushing, iatrogenic factors like orthodontic movements, faulty restorations and anatomic factors such as malposition, high frenum attachment, etc.

According to Miller, root coverage procedure is quite predictable and produces patient satisfaction. It should be therapist's obligation to make patients aware of this treatment modality. When recession is deep and marginal tissue health cannot be maintained, the need for treatment is obvious and various types of soft tissue grafts may be performed. Autogenous gingival grafting / epithelized free gingival grafting is a well established pure mucogingival procedure for increasing the width of attached gingiva. The procedure has proven reliable in increasing attached gingiva and stopping the progressive recession.[2]

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Case History:

A 32 year old female patient reported with a chief complaint of sensitivity of a tooth in lower anterior region. Patient had no medical and dental history. Intraoral examination revealed probing depth of not more than 3mm in any location. There was minimal bleeding on probing and Miller's class II recession with tooth 41 was seen. Radiographic examination showed no bone loss. Pre-surgical therapy included scaling, root planing and plaque control instructions were given. After 3 weeks of re-evaluation, the lower incisor showed 4 mm of recession (Fig.1). After the patient's consent, the site was treated by Miller's technique for free autogenous gingival grafting to achieve root coverage and increase the attached gingiva.



Fig 1. Gingival recession of 4 mm

Surgical Procedure:

Preparation of Recipient Bed:

Patient was given local anesthesia with 2% lignocaine containing adrenaline at concentration of 1:200,000, the exposed root was planed thoroughly with a Gracey 1-2

curette. The horizontal incision was made at the level of cemento-enamel junction extending from the line angle of adjacent teeth on either side of the recession deep into the papilla, creating a well defined butt joint margin. At the distal terminal of the horizontal incision, vertical incision was given extending into the alveolar mucosa, so that it is 3mm beyond the apical extent of the recession[3]. A partial thickness flap was elevated and excised apically (Fig.2).



Fig 2. Preparation of recipient bed

Preparation of Donor Tissue :

A foil template was used to determine the amount of donor tissue needed. The template was made by adapting it to the recipient site. The area between second premolar and first molar which had greater thickness was selected for the donor tissue. The initial incision was outlined by the placement of tinfoil template with a no 15 scalpel blade. All palatal incisions were made in such a way as to create the butt joint margin in the donor tissue. A bevel access incision was made to get an even thickness of the graft. The incision was made along the occlusal aspect of the palate with no 15 scalpel blade held parallel to the tissue, continued apically, lifting and separating the graft. Tissue pliers were used to retract the graft distally. The graft was checked for smoothness and uniform thickness (Fig.3). The graft was placed on the recipient bed and sutured by means of interrupted sutures at the coronal and apical borders. Anchorage suture was given for close adaption of the graft to the tooth surface (Fig. 4). After suturing, a periodontal pack was placed to protect the surgical site. The palatal wound was protected by periodontal pack and the pack was stabilized using Hawley's retainer[4].



Fig 3. Graft harvested from palate



Fig 4. Graft sutured at recipient site

Post Operative Instructions: The patient was asked not to brush at the surgical site for two weeks, 0.12% Chlorhexidine mouth rinse twice daily for 3 weeks and a course of antibiotics including Amoxicillin and Ibuprofen thrice daily for 5 days was advised. The pack was removed 2 weeks post operatively. Surgical site was irrigated with normal saline and suture were removed . The healing of palatal wound was satisfactory and patient did not complain of any discomfort. The patient was instructed to use a soft tooth brush with a roll-technique followed by a 60-second rinse with mouthwash for the next 6 weeks[5,6]. The recipient site was re-evaluated after 3 months (Fig.5).



Fig 5. Recipient site after 3 months

Discussion

This case report presented Miller's class-II recession with tooth no 41. Miller's criteria for successful root coverage include: the soft tissue margin must be at the cemento-enamel junction, clinical attachment to the root, sulcus depth of 2mm and no bleeding on probing. Using these criteria for success, Miller treated 100 cases of marginal tissue recession with root planing, saturated citric acid burnished onto the root for 5 minutes and with free gingival graft. Root coverage of 100% was attained in the area of deep-wide recession and 100% in shallow-wide recession. Root coverage by placing free gingival graft was first described by Sullivan and Atkins, they reported that free gingival graft offers best results in cases of shallow and narrow recession[7]. According to them, when graft is placed over recession, some amount of

bridging can be expected because a portion of grafted tissue which is covering the root will survive by receiving circulation from the vascular portion of the recipient site. Creeping attachment can result in a post operative coronal migration of free gingival margin. Factors which favour creeping attachment are narrowness of the recession, the presence of bone positioned inter-proximally at a coronal level on the facial surface, absence of gross tooth malpositioning and adequate plaque control.[8] In Miller's study complete root coverage has been obtained in area of deep-wide recession by various procedures. Free gingival grafting is a procedure of high degree of predictability when used alone or combined with other technique. The therapeutic goal in any form of corrective surgery must be clearly defined and judged against the result that can be obtained with other procedures. If stabilization of existing recession is the therapeutic objective and full coverage of the exposed root is not needed, then a simpler mucogingival procedure should be selected.[9]

Conclusion

The free soft tissue autograft when used for increasing the amount of attached gingiva is a relatively simple surgical procedure. The use of free soft tissue autograft for root coverage is much more technique demanding. Failing to properly address this technique can result in incomplete root coverage.

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